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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,504	12/26/2000	Junji Yoshida	6635-60104	6968

7590 10/21/2003
COUDERT BROTHERS
600 BEACH STREET
San Francisco, CA 94109

EXAMINER

LEUNG, QUYEN PHAN

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,504

Applicant(s)

YOSHIDA ET AL.

Examiner

Quyen P. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 20-28, 30, 31 and 33-35 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19, 32 and 36-43 is/are allowed.
- 6) ☒ Claim(s) 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/03 has been entered.

It is noted that applicant's amendment filed on 6/30/03, which included 11 pages, did not include a marked up version of claims 36-37. On page 11, the last claim to have shown with a marked up version is claim 34. As per 37 CFR 1.121, the marked up version of claims 36-37 is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 29 recites the limitations "said lower cladding layer and said lower optical confinement layer" in lines 11-12. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

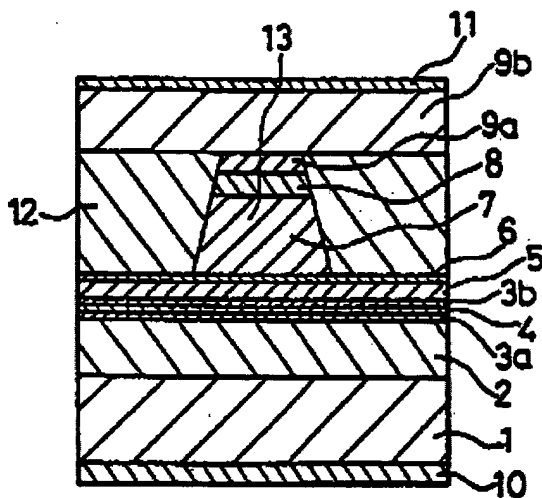
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsugami (5,177,757). Tsugami discloses the claimed invention. Note figure 1a which illustrates

FIG. 1(a)



a first III-V semiconductor layer (2) formed

by MOCVD (see col. 1 lines 25-26 for the suggestion of MOCVD) of n-doped semiconductor material (n-type AlGaInP), a III-V semiconductor spacer layer (3a) formed by MOCVD of undoped semiconductor material (undoped AlGaInP or undoped AlGaAs—see claims 1-4) deposited directly on the first

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1. A semiconductor laser producing visible light comprising:
 - a first conductivity type semiconductor substrate;
 - a first conductivity type AlGaInP cladding layer containing a first dopant impurity disposed on said substrate;
 - a semiconductor spacer layer disposed on said cladding layer;
 - an undoped InGaP active layer disposed on said spacer layer wherein said spacer layer inhibits intrusion of said first dopant impurity into said active layer;
 - a second conductivity type AlGaInP light guide layer disposed on said active layer;
 - a second conductivity type semiconductor current concentration and collection structure disposed on said light guide layer;
 - first and second opposed facets transverse to said cladding layer, said spacer layer, said active layer, and said light guide layer forming a resonant optical cavity for supporting laser oscillation; and
 - first and second electrodes disposed on said substrate and said current concentration and collection structure, respectively.
2. The semiconductor laser of claim 1 wherein said spacer layer is undoped.
3. The semiconductor laser of claim 2 wherein said spacer layer is AlGaInP.
4. The semiconductor laser of claim 2 wherein said spacer layer is $Al_xGa_{1-x}As$.

III-V semiconductor layer (2), a second III-V

semiconductor layer (4) formed by deposition of undoped semiconductor material (undoped InGaP) directly on said spacer layer (3a), and a first electrode (10) and a second electrode (11) for sending electrical current through said III-V semiconductor layers.

It has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

Allowable Subject Matter

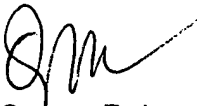
7. Claims 1-19, 32, 36-43 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (703) 308-0545. The examiner can normally be reached on 8:30-5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Quyen P. Leung
Primary Examiner
Art Unit 2828

QPL